CLAIMS:

1. A system for presenting a realistic three-dimensional display, comprising:

a source for providing a plurality of components of a scene, each component representing a portion of said scene at a different depth in said scene,

a corresponding plurality of bundles of image display elements,

each bundle of image display elements containing a multitude of image display elements,

each image display element having an input and a display output,

each bundle of image display elements corresponding to a respective component of said scene,

said display output of each of said image display elements being arranged to display an element of the component of said scene represented by the bundle containing said image display element,

said input of each image display element being arranged to receive display information representing an element of the component of said scene represented by the bundle containing said image display element,

the display output of each image display element arranged to display said element of said component of said scene according to the information received by the input of said image display element, such that each bundle of image display elements will be able to display its respective component of said scene,

said display end of each image display element being placed at a distance from an observer corresponding to the depth of the component in said scene represented by the bundle containing said image display element, such that said display outputs of said image display element of each bundle will be able to display its respective component of said scene at a distance corresponding to its depth in said scene,

whereby the display outputs of said plurality image display elements will display a true three-dimensional image of said scene, with closer parts of said scene physically closer to said observer and more distant parts of said scene more distant from said observer.

2. The system of claim 1 wherein said display outputs of said image display elements are light sources and said inputs of said image display elements are respective leads for energizing said light sources.

3. The system of claim 1 wherein said image display elements are optical fibers and said input of each of said image display elements is one end of an optical fiber and said display output of each image display elements is an opposite end of each optical fiber.

4. The system of claim 3 wherein the fibers in each bundle have the same diameter and the fibers in each bundle have a different diameter than the fibers in the other bundles of said plurality of bundles.

5. The system of claim 3 wherein said display ends of the fibers in all of said plurality of bundles are interspersed when viewed by said observer.

6. The system of claim 3 wherein said display ends of the fibers in all of said plurality of bundles are mounted in a transparent block.

7. The system of claim 6 wherein said display ends of the fibers in each bundle is positioned in a respective plane in said block so that the ends of all fibers in all of said plurality of bundles are positioned in a corresponding plurality of planes in said block, each of said planes being positioned at a different distance from said observer.

8. The system of claim 1 wherein said source is a single display screen divided into a corresponding plurality of display areas, and wherein the fibers in each bundle have the same diameter and the fibers in each bundle have a different diameter than the fibers in the other bundles of said plurality of bundles.

9. The system of claim 8 wherein said display ends of the fibers in all of said plurality of bundles are interspersed when viewed by said observer.

10. The system of claim 1, further including a computer for generating said plurality of components of said scene and presenting each component visually in a different physical display area,

11. The system of claim 1 wherein said source is a single display screen divided into a corresponding plurality of display areas.

12. The system of claim 1 wherein said source is a plurality of separate displays.

13. A method for presenting a realistic three-dimensional display, comprising:

providing a plurality of components of a scene, each component representing a portion of said image at a different depth in said scene, and each component being presented visually in a different physical display area,

providing a corresponding plurality of fiber optic bundles, each bundle containing a multitude of optical fibers, each of said fiber optic bundles having a source end and a display end, the source end of each fiber optic bundle being placed adjacent to a respective display area of said source, such that each fiber optic bundle will convey a respective component of said image of a different depth in said scene,

placing said display end of each fiber optic bundle at a distance from an observer corresponding to its depth in said scene, such that said display end of each fiber optic bundle will display a respective component of said image at a distance corresponding to its depth in said scene,

whereby the display ends of said plurality of fiber optic bundles will display a true three-dimensional image of said scene, with closer parts of said scene physically closer to said observer and more distant parts of said scene more distant from said observer.

14. The system of claim 13 wherein said components of a scene are presented on a single display screen divided into a corresponding plurality of display areas.

15. The system of claim 13 wherein said components of a scene are presented on a plurality of separate displays.

16. The system of claim 13 wherein the fibers in each bundle have the same diameter and the fibers in each bundle have a different diameter than the fibers in the other bundles of said plurality of bundles.

17. The system of claim 13 wherein said display ends of the fibers in all of said plurality of bundles are interspersed when viewed by said observer.

18. The system of claim 13 wherein said display ends of the fibers in all of said plurality of bundles are mounted in a transparent block.

19. The system of claim 18 wherein said display ends of the fibers in each bundle are positioned in a respective plane in said block so that the ends of all fibers in all of said plurality of bundles are positioned in a corresponding plurality of planes in said block, each of said planes being positioned at a different distance form said observer.

20. The system of claim 13, further including providing a computer for generating said plurality of components of said scene and presenting each component visually in a different physical display area,

21. The system of claim 13 wherein said components of a scene are presented on a single display screen divided into a corresponding plurality of display areas, and

wherein the fibers in each bundle have the same diameter and the fibers in each bundle have a different diameter than the fibers in the other bundles of said plurality of bundles.

22. The system of claim 21 wherein said display ends of the fibers in all of said plurality of bundles are interspersed when viewed by said observer.

23. A method for presenting a realistic three-dimensional display, comprising:

providing a plurality of components of a scene, each component representing a portion of said image at a different depth in said scene, each component comprising a multitude of elements of said component,

providing a corresponding plurality of bundles of light sources, each bundle containing a corresponding multitude of light sources, each of said light sources having a lead end and a display end, the lead end of each light source being arranged to receive information representing a respective element of said component of said scene, such that each light source will display an element of its component of said scene and each bundle of light sources will convey a respective component of said scene at a different depth in said scene,

placing said display end of each light source at a distance from an observer corresponding to the depth of the component containing the element represented by said light source in said scene, such that said display end of each light source will display a respective element of said scene at a distance corresponding to its depth in said scene,

whereby the display ends of said plurality of bundles or light sources will display a true three-dimensional image of said scene, with closer parts of said scene physically closer to said observer and more distant parts of said scene more distant from said observer.

24. The method of claim 23 wherein said light sources are light-emitting diodes.